NOTES 15: MORE ON TESTING

Stat 120 | Fall 2025 Prof Amanda Luby

1	Types	of	Errors
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Example: A public health researcher believes that there is a positive relationship between heart rate and age among ICU patients. Data from 23 patients gives r=0.037. Do you think the probability of a Type II error is higher if $\rho=.9$ or $\rho=.1$?

$$H_0: \rho = 0$$

$$H_A: \rho > 0$$

Big Picture Picture

Sampling Distribution

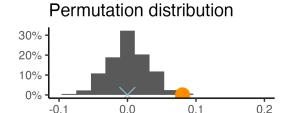
Bootstrap Distribution

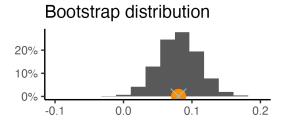
Null Distribution

2 Connection to Confidence Intervals

If the value of H_0 is *outside* of the confidence interval, we ______. If the value of H_0 is *inside* the confidence interval, we ______.

Illustration: (Social Media Poll Example)





3 Statistical vs Practical Significance